

## Sub-Sea Engineering

### Sub-Sea Pig Launching System

Brown & Root Energy Services (BRES) and GD Engineering jointly developed the Eastern Trough Area Project (ETAP) sub-sea pig launcher. Bennett Associates, working alongside GD Engineering's own design team, produced the detailed engineering designs for the prototype launcher system. The production launcher is currently operational deploying pigs as often as four times per year into BP's Machar subsea oil field (UK North Sea).

The launcher is located at BP's 16-inch diameter Machar subsea field. The 245 Bar, 36 km long production pipeline runs to the Marnock platform in the northern sector of the North Sea. Build up of petroleum wax deposits on the inner wall of the pipeline could result, over time, in a significant reduction in flow capacity and ultimately revenue. The challenge was to not only launch the pigs from their sub-sea location but also do it without the need to stop oil production; innovative design realised this challenge.

BRES and GD Engineering were presented the 2000 Award for the Most Significant Contribution to Subsea Pipeline Technology by the Pipeline Industries Guild for their work in developing the first subsea pig launcher to be used for regular maintenance on a multiphase oil pipeline.

Bennett Associates (originally founded in 1984) was acquired in 2008 by Atkins; bringing their proven technical expertise to the UK's leading engineering consultancy.

